

## **REMARKS/ARGUMENTS**

Claims 1-6, 23, 25-27, and 37-46 are pending. Claims 7-22, 24, and 28-36 are canceled. Claims 1-6 and 25-27 are amended. Claims 37-46 are new. Support for the new and amended claims can be found at least in paragraphs 0027-0030, 0035, 0038, 0043-0045, and 0047, as well as in Figures 6 and 7. No new matter is added.

Applicants have amended some claims and canceled others. Applicants do not concede that the subject matter encompassed by the earlier presented claims is not patentable over the art cited by the Examiner. Applicants canceled and amended claims in this response solely to facilitate expeditious prosecution of this application. Applicants traverse all rejections and respectfully reserve the right to pursue the earlier-presented claims, and additional claims, in one or more continuing applications.

### **I. Interview Summary**

An interview was conducted between the Examiner and the undersigned attorney on Friday, August 22, 2008. During the interview, Applicant's representative discussed claim 1 and the specification. No agreement was reached.

### **II. 35 U.S.C. § 101**

The Examiner rejected claims 16-22 under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. Applicants have canceled claims 16-22. Thus, the rejection with respect to claims 16-22 is moot.

Nevertheless, new claims 37-46 contain the term "recordable type computer readable medium." Thus, Applicants address this rejection.

The Examiner believes that paragraph 0054 provides that a recordable-type medium can include impermissible transmission forms. However, this assertion is not in agreement with the specification:

[0054] It is important to note that while the present invention has been described in the context of a fully functioning data processing system, those of ordinary skill in the art will appreciate that the processes of the present invention are capable of being distributed in the form of a computer readable medium of instructions and a variety of forms and that the present invention applies equally

regardless of the particular type of signal bearing media actually used to carry out the distribution. ***Examples of computer readable media include recordable-type media***, such as a floppy disc, a hard disc drive, a RAM, CD-ROMs, DVD-ROMs, ***and transmission-type media***, such as digital and analog communications links, wired or wireless communications links using transmission forms, such as, for example, radio frequency and light wave transmissions. The computer readable media may take the form of coded formats that are decoded for actual use in a particular data processing system.

Specification, paragraph 0054.

Thus, the specification provides that computer readable media may include both recordable-type media and transmission-type media. Transmission-type media include the carrier waves embodiments rejected by the Examiner. Recordable-type media, as claimed, only include examples of physical media. Thus, Applicants believe that the Examiner is mistaken in asserting that recordable-type media are not limited to tangible embodiments.

Additionally, the newly presented claims provide for a “recordable-type computer readable medium on which is stored a computer program product.” Thus, in view of paragraph 0054 of the specification, the newly presented claims make plain that only physical embodiments are claimed. Accordingly, claims 37-46 should be patentable under 35 U.S.C. § 101. Therefore, this rejection is overcome.

### **III. 35 U.S.C. § 102, Anticipation**

The Examiner rejected claims 1-3, 5-11, 13-18, and 20-22 as anticipated under 35 U.S.C. § 102 by *Carter et al.*, System and Method for Providing Highly Available Data Storage Using Globally Addressable Memory, U.S. Patent 5,909,540 (June 1, 1999) (hereinafter “*Carter*”). This rejection is respectfully traversed. In rejecting claim 1, the Examiner states that:

Carter discloses 1,3-5, and 7-13, a method in a data processing system for storing data in a file system, the method comprising determining whether space is available in an inode for a file in the file system ("determine the free volume space available for allocation, the file system 60 requests the total available space information", col. 12, lines 50-55); and responsive to space being available, storing the data in the inode ("If the total available space

is less than the required allocation size, the request is denied immediately. Otherwise, the file system 60 will proceed to allocate the pages to satisfy the request. The fact that the file system 60 can proceed with the allocation does not guarantee that the allocation will succeed, because the actual total available space may change constantly", col. 12, lines 55-61).

Office Action of July 8, 2008, p. 3.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). In this case, each and every feature of the presently claimed invention is not identically shown in the cited reference, arranged as they are in the claims.

The rejection of claim 1 as originally presented is incorrect, as *Carter* does not teach what the Examiner asserts. Nevertheless, to facilitate prosecution only, Applicants have amended claim 1. Amended claim 1 as amended is as follows:

1. (Currently Amended) A method in a data processing system, the method comprising:
  - determining whether space is available in an inode, wherein the space is for data of a file of a file system, wherein the inode is an inode of the file system, and wherein the inode is also usable to store metadata associated with the file; and
  - responsive to space for the data being available, placing the data directly into the inode.

In this case, *Carter* does not teach the features of “determining whether space is available in an inode, wherein the space is for data of a file of a file system” and “responsive to space for the data being available, placing the data directly into the inode.” Regarding the similarly presented feature in claim 1, the Examiner cites the following portion of *Carter*:

Similar to the NTFS, which controls the allocation of each disk partition and therefore can quickly determine the free volume

space available for allocation, the file system 60 requests the total available space information and uses this information to quickly determine whether to proceed with the allocation processing. If the total available space is less than the required allocation size, the request is denied immediately. Otherwise, the file system 60 will proceed to allocate the pages to satisfy the request. The fact that the file system 60 can proceed with the allocation does not guarantee that the allocation will succeed, because the actual total available space may change constantly.

*Carter*, col. 12, lines 50-61.

The cited portion of *Carter* is devoid of disclosure regarding inodes. Thus, the cited portion of *Carter* does not teach “determining whether space is available in an inode, wherein the space is for data of a file of a file system” and “responsive to space for the data being available, placing the data directly into the inode,” as in claim 1.

Other portions of *Carter* do discuss inodes. However, the claimed features are never disclosed or suggested. Instead, *Carter* uses inodes in their traditional sense; that is, as structures in which to hold metadata regarding files. For example, *Carter* states:

“[a] file of the file system **60** comprises streams of data and the file system metadata to describe the file. Files are described in the file system **60** by objects called Inodes. The Inode is a data structure that stores the file metadata. It represents the file in the file system **60**.”

*Carter*, col. 11, lines 24-28.

Thus, *Carter* teaches that an inode does two things: 1) describes a file in the file system, and 2) stores the file metadata. Although *Carter* teaches two functions of an “inode,” the reference does not teach the features of “determining whether space is available in an inode, wherein the space is for data of a file of a file system” and “responsive to space for the data being available, placing the data directly into the inode,” as in claim 1.

Moreover, *Carter* does not teach “placing data directly into the inode.” The portion of *Carter* cited by the Examiner teaches the following: 1) determining the amount of available disk space in a file system, and 2) if the available space is greater than the required allocation size, proceeding to allocate the “pages” necessary for storage of data. *Carter* states:

A data stream is a logically contiguous stream of bytes. It can be the data stored by applications or the internal information stored by the file system 60. The data streams are mapped onto pages allocated from the addressable shared memory space 20 for storage. The file system 60 segments a data stream into a sequence of 4 kilobyte segments, each segment corresponding to a page.

*Carter*, col. 11, lines 29-34

Thus, *Carter* teaches a method of storing data on a “page,” which is a 4 kilobyte segment of shared disk space. *Carter* teaches a method of storing data in available shared memory space, such as disk space, but the *Carter* is completely devoid of the feature of “placing data directly into the *inode*,” as in claim 1. In fact, *Carter* teaches away from storing actual content data in an *inode*, stating that the two functions of an *inode* are merely describing a file in the file system and storing the file metadata.

Because *Carter* fails to teach the features of claim 1, *Carter* does not anticipate claim 1. The remaining claims all contain features similar to and/or beyond those presented in claim 1. Therefore, the same distinctions between *Carter* and claim 1 apply to these claims. Consequently, this rejection of all of the claims has been overcome.

#### **IV. 35 U.S.C. § 103, Obviousness**

The Examiner rejected claim 4 as obvious under 35 U.S.C. § 103 in view of *Carter* and *Bixby, et al.*, Maintenance of a File Version Set Including Read-Only and Read-Write Snapshot Copies of a Production File, U.S. Patent Application Publication 2005/0065986 (March 24, 2005) (hereinafter “*Bixby*”). This rejection is respectfully traversed on the grounds that the references do not teach or suggest what the Examiner asserts. The Examiner states:

Carter discloses substantially all of the elements, except a last block of the another file. Bixby teaches created sparse by writing only to the *inode* and last block of the file. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the sparse file allows the production file to use only those blocks that the client writes data to. This allows less disk blocks to be consumed initially (paragraph [0152]).

Office Action dated July 8, 2008, page 6.

The Examiner bears the burden of establishing a *prima facie* case of obviousness

based on prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). The prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). In determining obviousness, the scope and content of the prior art are... determined; differences between the prior art and the claims at issue are... ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or non-obviousness of the subject matter is determined. *Graham v. John Deere Co.*, 383 U.S. 1 (1966). “Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l. Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (April 30, 2007). “Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006)).”

Claim 4 as amended is as follows:

4. (Currently Amended) The method of claim 3, wherein the partially filled block is a last block associated with the another file.

Claim 4 depends from claim 1. The rejection of claim 4 relies on the Examiner’s assertions regarding the teachings of *Carter*. However, as shown above, *Carter* does not teach or suggest the features of claim 1. Additionally, *Bixby* does not teach the features of claim 1, and specifically does not teach or suggest “determining whether space is available in an inode, wherein the space is for data of a file of a file system” and “responsive to space for the data being available, placing the data directly into the inode,” as in claim 1. Again, while *Bixby* discloses the use of inodes as storage for metadata regarding files, *Bixby* does not teach or suggest these claimed features.

Because neither references teaches or suggests the features of claim 1, the combination of references, considered as a whole, does not teach or suggest the features of claim 4 – at least by virtue of the dependence of claim 4 from claim 1. Therefore,

under the standards of *In re Royka*, no *prima facie* obviousness rejection can be stated against claim 4 using a combination of these references. Accordingly, this rejection is overcome.

**V. Conclusion**

The subject application is patentable over the cited references. Therefore, the subject application should now be in condition for allowance. Applicants invite the Examiner to call the undersigned at the below-listed telephone number if, in the opinion of the Examiner, a telephone conference would expedite or aid the prosecution of this application.

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Respectfully submitted,

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